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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/780,346	02/12/2001	Satoshi Wakasa	1921 - 0130P	8062
2292	7590	08/24/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			DUONG, THANH P	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/780,346

Applicant(s)

WAKASA ET AL.

Examiner

Tom P Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 2-3 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 3, there is no written description of "the heating means is provided both inside and outside of the helical part." In claim 4, there is no written description of "the heating means is provided outside of the helical part." It appears the original specification discloses only the heating means inside the helical part.

2. Claims 2-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 3, the recitation of "the heating means is provided both inside and outside of the helical part" is indefinite and inaccurate. In claim 4, the recitation of "the heating means is provided outside of the helical part" is indefinite and inaccurate.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peter-Hoblyn et al. (6,361,754) in view of Hunt et al. (5,165,903).

Regarding claims 1 and 6, Peter-Hoblyn et al. discloses ammonia generating apparatus (10, 16, 12, 13, 24) comprising: a flow passage (12) for urea water to flow therethrough, a heating means (hot exhaust gases in pipe 14) heats the urea solution, and a urea water introducing part is introduced thru line 12 by a pump 16. Peter-Hoblyn fails to disclose an air supply line connected to the urea water introducing part. Hunt teaches compressed air (via line 37) connecting with urea inlet line 32 to facilitate mixing and deliverance of the urea solution with the flue gas stream (Col. 5, lines 28-35). Thus, it would have been obvious in view of Hunt to one having ordinary skill to modify the apparatus of Peter-Hoblyn with an air supply line connected with the urea introducing part as taught by Hunt in order to facilitate mixing and deliverance of the urea solution with the flue gas stream. Regarding claim 2, Peter-Hoblyn et al. shows on Figure 2 the hot exhaust gases are flown inside the helical part, which is located inside pipe 14. Regarding claims 3 and 4, Peter-Hoblyn shows the flow passage 12 is formed into helical part with heating means (hot exhaust gas) is provided thru inside of

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the helical coil and outside of the helical part (area between inner diameter of exhaust pipe 14 and outside coil surface). Regarding claim 5, Peter-Hoblyn shows the heating means surrounds the flow passage.

4. Claims 1 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lagana et al. (6,093,380) in view of Hunt et al. '903. Lagana discloses an ammonia generating apparatus (Abstract) comprising: a urea water introducing part (urea pump 97); a flow passage (conduit 98) for urea water to flow therethrough; a heating means or electric heater (100) heats urea water present within the flow passage (conduit 98) and the heating means surrounds the flow passage (Fig. 2 and Col. 7, lines 30-65). Lagana fails to disclose an air supply line connected to the urea water introducing part. Hunt teaches compressed air (via line 37) connecting with urea inlet line 32 to facilitate mixing and deliverance of the urea solution with the flue gas stream (Col. 5, lines 28-35). Thus, it would have been obvious in view of Hunt to one having ordinary skill to modify the apparatus of Lagana with an air supply line connected with the urea introducing part as taught by Hunt in order to facilitate mixing and deliverance of the urea solution with the flue gas stream.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-2 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Duong  
August 13, 2004

TD

  
Glenn Caldarola  
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Technology Center 1700